# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/814,184 | 04/01/2004 | Akihiro Sato | 2004_0525A | 6444 |

513          7590          07/24/2007
WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

| EXAMINER |
|---|
| MOORE JR, MICHAEL J |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2616 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 07/24/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

| | **Application No.** | **Applicant(s)** |
|---|---|---|
| **Office Action Summary** | 10/814,184 | SATO, AKIHIRO |
| | **Examiner** | **Art Unit** | |
| | Michael J. Moore, Jr. | 2616 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>01 April 2004</u>.

2a)☐ This action is **FINAL.**     2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-15</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-15</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>01 April 2004</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

## DETAILED ACTION

### *Information Disclosure Statement*

1.      The information disclosure statement (IDS) submitted on 6/22/04 is in

compliance with the provisions of 37 CFR 1.97.  Accordingly, the examiner is

considering the information disclosure statement.

### *Drawings*

2.      Figures 1-7 should be designated by a legend such as --Prior Art-- because only

that which is old is illustrated.  See MPEP § 608.02(g).  Corrected drawings in

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid

abandonment of the application. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

any portion of the drawing figures. If the examiner does not accept the changes, the

applicant will be notified and informed of any required corrective action in the next Office

action. The objection to the drawings will not be held in abeyance.

### *Specification*

3.      The disclosure is objected to because of the following informalities: On page 4,

lines 27-28, there is some confusion regarding the language "the data multiplexing

apparatus is never be synchronized with the transmission rate for output".

Appropriate correction is required.

### *Claim Objections*

4.      Claims **2-4** are objected to because of the following informalities:

Regarding claim **2**, on line 7, the word "on" after word "packets" should be "of".

Regarding claim **3**, on line 3, the word "the" before word "number" should be "a"

in this first instance.

Regarding claim **4**, on line 4, the word "on" after word "block" should be "of".

Appropriate correction is required.

### Claim Rejections - 35 USC § 101

5.      35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim **14** is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.  Currently, claim **14** is directed to "functional

descriptive material *per se*" (computer program) with no claimed practical application.

Please see "Interim Guidelines for Patentable Subject Matter Eligibility".

### Claim Rejections - 35 USC § 102

6.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7.      Claims **1, 6-10, and 12-14** are rejected under 35 U.S.C. 102(e) as being

anticipated by Bertram et al. (U.S. 6,996,098) (hereinafter "Bertram"). *Bertram* teaches

all of the limitations of the specified claims with the reasoning that follows.

Regarding claim **1**, "a data multiplexing apparatus for multiplexing a plurality of

packet streams and outputting a multiplexed packet stream" is anticipated by the

multiplexing system 100 (data multiplexing apparatus) shown in Figure 1.

"A data multiplexing unit operable to generate a first multiplexed packet stream

by multiplexing at least one first packet stream and null packets so that the multiplexed

packet stream is outputted at a predetermined transmission rate, the null packets being

inserted into the first multiplexed packet stream" is anticipated by transport packetizer

135 (data multiplexing unit) of Figure 1 that packetizes an incoming content stream to

produce a transport stream (first multiplexed packet stream) interspersed with NULL

packets as shown in Figure 2A and spoken of on column 3, lines 58-64.

Lastly, "a packet replacement unit operable to generate the multiplexed packet

stream by replacing the inserted null packets with packets that constitute a second

packet stream" is anticipated by transport processor 150 (packet replacement unit) of

Figure 1 that detects NULL packets within the content stream and replaces the NULL

packets with asset packets from the asset packet stream as spoken of on column 5,

lines 28-32.

Regarding claim **6**, "a packet stream storage unit having an area for storing

packet streams one by one" is anticipated by content storage 140 (packet stream

storage unit) of Figure 1 that stores the multiplexed content stream as spoken of on

column 8, lines 20-22.

"A multiplexing order generation unit operable to generate information indicating

an order of packets to be multiplexed into the first multiplexed packet stream in every

predetermined period of time" is anticipated by session controller 145 (multiplexing order generation unit) of Figure 1 that provides asset injection rate and count information to transport processor 150 for formation of the multiplexed content/asset stream as spoken of on column 9, lines 4-10.

"A multiplexing order storage unit operable to hold the information indicating the order generated by the multiplexing order generation unit" is anticipated by transport processor 150 (multiplexing order storage unit) that receives (holds) the asset injection rate and count information from session controller 145 (multiplexing order generation unit) as spoken of on column 9, lines 4-10.

"A flag generation unit operable to generate a flag indicating a state how the packets are stored in the multiplexing order storage unit" is anticipated by null packet inserter 135-NP (flag generation unit) of Figure 1 that intersperses NULL packets with the content packets (indicates how packets are stored) for storage into content storage 140 as spoken of on column 3, lines 61-64.

Lastly, "a multiplexing total number control unit operable to determine the total number of packets to be multiplexed in the every predetermined period of time, based on the flag generated by the flag generation unit" is anticipated by transport processor 150 (multiplexing total number control unit) of Figure 1 that detects NULL packets (detects flag indication) within the content stream and replaces NULL packets with asset packets (number of packets multiplexed) to form a combined content/asset stream as spoken of on column 5, lines 28-32.

Regarding claim **7**, "wherein the flag generated by the flag generation unit has a

first flag and a second flag, the first flag indicating that the number of stored packets is

equal to or less than a predetermined value, the second flag indicating that the number

of stored packets is equal to or more than a predetermined value" is anticipated by null

packet inserter 135-NP (flag generation unit) of Figure 1 that intersperses NULL packets

with the content packets (indicates how packets are stored) for storage into content

storage 140 as spoken of on column 3, lines 61-64.

Regarding claim **8**, "wherein the second packet stream is made up of data having

no time-base information" is anticipated by the asset stream (second packet stream)

shown in Figure 2A.

Regarding claim **9**, "wherein the second packet stream is a packet stream of

private data" is anticipated by the asset stream (second packet stream) shown in Figure

2A.

Regarding claim **10**, "wherein the first packet stream is a packet stream including

at least one of a video signal and an audio signal" is anticipated by the MPEG content

data (video signal) spoken of on column 8, lines 5-14.

Regarding claim **12**, "a transmission apparatus for multiplexing a plurality of

packet streams and transmitting a multiplexed packet stream" is anticipated by the

multiplexing system 100 (transmission apparatus) shown in Figure 1.

"A data multiplexing unit operable to generate a first multiplexed packet stream

by multiplexing at least one first packet stream and null packets so that the multiplexed

packet stream is outputted at a predetermined transmission rate, the null packets being

inserted into the first multiplexed packet stream" is anticipated by transport packetizer

135 (data multiplexing unit) of Figure 1 that packetizes an incoming content stream to

produce a transport stream (first multiplexed packet stream) interspersed with NULL

packets as shown in Figure 2A and spoken of on column 3, lines 58-64.

"A packet replacement unit operable to generate the multiplexed packet stream

by replacing the inserted null packets with packets that constitute a second packet

stream" is anticipated by transport processor 150 (packet replacement unit) of Figure 1

that detects NULL packets within the content stream and replaces the NULL packets

with asset packets from the asset packet stream as spoken of on column 5, lines 28-32.

Lastly, "a transmission unit operable to transmit the multiplexed packet stream

generated by the packet replacement unit" is anticipated by transport processor 150

(transmission unit) of Figure 1 that provides the content/asset stream to the subscriber

terminal via appropriate physical and logical channels as spoken of on column 9, lines

33-38.

Regarding claims **13 and 14**, "a data multiplexing method for multiplexing a

plurality of packet streams and outputting a multiplexed packet stream" is anticipated by

the method shown in Figure 3.

"Generating a first multiplexed packet stream by multiplexing at least one first

packet stream and null packets so that the multiplexed packet stream is outputted at a

predetermined transmission rate, the null packets being inserted into the first

multiplexed packet stream" is anticipated by transport packetizer 135 of Figure 1 that

packetizes an incoming content stream to produce a transport stream (first multiplexed

packet stream) interspersed with NULL packets as shown in Figure 2A and spoken of

on column 3, lines 58-64.

Lastly, "generating the multiplexed packet stream by replacing the inserted null

packets with packets that constitute a second packet stream" is anticipated by transport

processor 150 of Figure 1 that detects NULL packets within the content stream and

replaces the NULL packets with asset packets from the asset packet stream as spoken

of on column 5, lines 28-32.

### Claim Rejections - 35 USC § 103

8.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.      Claims **2-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bertram et al. (U.S. 6,996,098) (hereinafter "Bertram").

Regarding claims **2 and 5**, *Bertram* teaches the method of claim **1**.

*Bertram* also teaches transport processor 150 (null packet detection subunit) that

detects NULL packets within the content stream as spoken of on column 5, lines 28-30.

*Bertram* also teaches transport processor 150 (packet replacement subunit) that

replaces the NULL packets with asset packets from the asset stream in accordance with

mapping data stored within session controller 145 as spoken of on column 4, lines 57-

63 as well as column 5, lines 28-32.

Bertram does not explicitly teach the replacement of null packets based upon an

obtained address indicating where a packet is stored in the packet stream storage unit.

However, Bertram does teach the use of mapping information in order to

appropriately map content stream data to asset stream data as spoken of on column 4,

lines 26-33.

At the time of the invention, it would have been obvious to someone of ordinary

skill in the art, given the teachings of Bertram, to use address information as the

mapping information of Bertram to combine the content and asset packet streams in

order to efficiently form a multiplexed stream having a detectable packet sequence.

Regarding claim **3**, Bertram further teaches transport processor 150 of Figure 1

that detects NULL packets within the content stream and replaces NULL packets with

asset packets (number of packets) to form a combined content/asset stream as spoken

of on column 5, lines 28-32.

Regarding claim **4**, Bertram further teaches null packet inserter 135-NP of Figure

1 that intersperses NULL packets with the content packets (indicates how packets are

stored) for storage into content storage 140 as spoken of on column 3, lines 61-64.

10.     Claims **11 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Bertram et al. (U.S. 6,996,098) (hereinafter "Bertram") in view of Cheung (U.S.

6,781,601).

Regarding claims **11 and 15**, Bertram teaches the apparatus of claims **2 and 6**,

respectively, as described above. Bertram further teaches the use of content storage

140 and asset storage 125 as shown in Figure 1 and spoken of on column 2, lines 57-61.

*Bertram* does not explicitly teach where the packet stream storage unit is a synchronous dynamic RAM.

However, *Cheung* teaches the use of a transport processor in an MPEG processing environment where SDRAM is used in the processing of transport streams as spoken of on column 9, lines 31-37.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to combine the SDRAM teachings of *Cheung* with the teachings of *Bertram* in order to provide an efficient way to store transport stream data in a well-known form of memory that is dynamically reusable.

### *Conclusion*

11.     The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Elstermann (U.S. 6,771,657), Wingfield (U.S. 7,103,047), Myers (U.S. 2002/0146023), and Devara (U.S. 2002/0144260) are other references considered pertinent to this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168.  The examiner can normally be reached on Monday-Friday (7:30am - 4:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wing F. Chan can be reached at (571) 272-7493. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael J. Moore, Jr.
Examiner
Art Unit 2616

mjm HM

7/19/07

WING CHAN
SUPERVISORY PATENT EXAMINER